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20/06 7590 12/09/2010 MCDONNELL BOEHNNEN HULBERT & BERGHOFF LLP 300 S. WACKER DRIVE 32ND FLOOR CHICAGO, IL 60606				
EXAMINER BOSWORTH, KAMI A				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/588,463

**Applicant(s)**

VOGELIN ET AL.

**Examiner**

KAMI A. BOSWORTH

**Art Unit**

3767

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 November 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 18-21, 25-27 and 29-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-21, 25-27 and 29-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

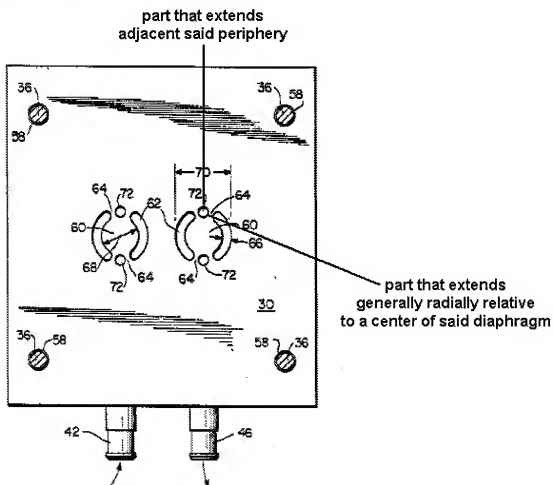
2. Claims 18, 19, 25, 26, 30, 32-37 and 41-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuesch (US Pat 6,270,474) in view of Litt (US Pat 4,181,477).
3. Re claim 18, Nuesch discloses a breast shield set (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 1 (Fig 1), a breast shield connector (Fig 1; Col 3, Lines 21-23) with a threaded attachment 9 (Fig 1) for connection to a milk collection vessel 8 (Fig 1), and a valve (Fig 2) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 6 (Fig 2) and a valve body (formed of components 27,28,29,30 and 33, as seen in Fig 2) with a circular diaphragm (distal face upon which flap 27, hinge 28 and margin 30 are formed, Fig 2), the valve body being arranged over the valve seat (as seen in Fig 1) and closing the valve seat sealingly when it bears on said valve seat (Col 5, Lines 2-6), and the valve seat and valve body having openings (openings 26 in the valve seat, as seen in Fig 2; the opening in which diaphragm 27 resides, Col 5, Lines 1-2) which are offset relative to one another (as seen in Fig 2) and which form a free passage when the

diaphragm of the valve body lifts (Col 4, Lines 51-56 and Col 5, Lines 1-2). Nuesch does not disclose that the openings of the diaphragm are narrow elongate openings and compact openings. Litt, however, teaches a valve comprising a valve seat 56 (Fig 5) and a diaphragm valve body 30 (Fig 2,5) comprising openings (as seen in Fig 5), wherein said openings of the diaphragm of the valve body comprise narrow elongate openings 62 (Fig 2) with a long dimension (as seen in Fig 2) and which are uniformly distributed adjacent the periphery of the diaphragm (as seen in Fig 2), and wherein the narrow elongate openings are separated from one another by webs 64 (Fig 2), the diaphragm being designed to be weaker in the area adjacent to these webs (versus the portion of the diaphragm distant from these webs; Col 4, Lines 9-11) and wherein said openings of the diaphragm further comprise compact openings 72 (Fig 2) which are present in areas generally between said narrow elongate openings (as seen in Fig 2), with said compact openings being smaller than said narrow elongate openings (as seen in Fig 2) and having a part that extends adjacent said periphery (outer-facing boundary of the circle, as seen in Fig 2 and Fig A below) and another part that extends generally radially relative to a center of said diaphragm (side boundary of the circle that lies perpendicular to the outer-facing boundary and faces narrow elongate opening 62, as seen in Fig 2 and Fig A below) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include

narrow elongate openings and compact openings on the diaphragm, as taught by Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

## Fig A

(annotated Fig 2 of Litt)



4. Re claim 19, Nuesch discloses that the valve seat of the valve can be fitted onto the breast shield connector (as seen in Fig 1).

5. Re claim 25, Nuesch discloses that a circle 27 (Fig 2) has a center point that coincides with the center point of the circular diaphragm (as seen in Fig 2).
6. Re claim 25, Nuesch discloses all the claimed features except narrow elongate openings that form a common circular ring. Litt, however, teaches that the narrow elongate openings 62 (Fig 2) form a common circular ring (as seen in Fig 2) whose width 66 (Fig 2) is a multiple smaller than the smaller radius (one half of diameter 68, Fig 2) of circular ring 60 (Fig 2) and which is provided with webs 64 (Fig 2) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include narrow elongate openings forming a common circular ring whose width is a multiple smaller than the smaller radius of a circular ring and which is provided with webs, as taught by Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).
7. Re claim 30, Nuesch discloses all the claimed features except compact openings that are arranged in the weakened area of the diaphragm. Litt, however, teaches that compact openings 72 (Fig 2) are arranged in the weakened area (the area comprising the webs 64, Fig 2) of the diaphragm (as seen in Fig 2) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the

passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include the compact openings arranged in the weakened area of the diaphragm, as taught by Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

8. Re claim 32, Nuesch discloses that the valve body has a cylindrical jacket 29 (Fig 2) that surrounds the diaphragm (as seen in Fig 2).

9. Re claim 33, Nuesch discloses that the diaphragm, except for the opening, is designed as a plane, closed disk (as seen in Fig 2) which is connected circumferentially to the cylindrical jacket (as seen in Fig 2). Nuesch does not disclose that the diaphragm has narrow elongate openings, compact openings and weakened areas. Litt, however, teaches that diaphragm 30 (Fig 2), except for the narrow elongate openings 62 (Fig 2) and compact openings 72 (Fig 2) and weakened areas (adjacent webs 64, Fig 2), is designed as a plane, closed disk (as seen in Fig 1) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include narrow elongate opening, compact openings and weakened areas, as taught by

Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

10. Re claim 34, Nuesch discloses that the jacket has at least one notch (within which projections 31 fit, Fig 2; Col 5, Lines 7-12) extending parallel (for a defined distance; inherent) to a center axis of the cylindrical jacket.

11. Re claim 35, Nuesch discloses that the cylindrical jacket has an inner face provided with at least one groove extending at least partially about the circumference (Col 5, Lines 7-10).

12. Re claim 36, Nuesch discloses that the cylindrical jacket is provided with a bead 33 (Fig 2) extending at least partially about the circumference (as seen in Fig 2).

13. Re claim 37, Nuesch discloses that the valve seat has a plane surface 25 (Fig 2) with a central opening (center opening 26, Fig 2) and with openings (all other openings 26, Fig 2) extending around this central opening, the extending openings being interrupted by webs (formed of surface 25, Fig 2).

14. Re claim 41, Nuesch discloses a breast shield set (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 1 (Fig 1), a breast shield connector (Fig 1; Col 3, Lines 21-23) with a threaded attachment 9 (Fig 1) for connection to a milk collection vessel 8 (Fig 1), and a valve (Fig 2) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 6 (Fig 2) and a valve body (formed of components 27,28,29,30 and 33, as seen in Fig 2) with a circular diaphragm (distal face upon which flap 27, hinge 28 and margin 30 are formed,



Fig 2), the valve body being arranged over the valve seat (as seen in Fig 1) and closing the valve seat sealingly when it bears on said valve seat (Col 5, Lines 2-6), and the valve seat and valve body having openings (openings 26 in the valve seat, as seen in Fig 2; the opening in which diaphragm 27 resides, Col 5, Lines 1-2) which are offset relative to one another (as seen in Fig 2) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 51-56 and Col 5, Lines 1-2), wherein the opening of the diaphragm of the valve body comprises a narrow elongate opening (as seen in Fig 2). Nuesch does not disclose that there are numerous openings of the diaphragm that are narrow elongate openings separated from one another by webs. Litt, however, teaches a valve comprising a valve seat 56 (Fig 5) and a diaphragm valve body 30 (Fig 2,5) comprising narrow elongate openings 62 (Fig 2) which are uniformly distributed and follow a circle adjacent a periphery of the diaphragm (as seen in Fig 2), and wherein the narrow elongate openings are separated from one another by webs 64 (Fig 2), the diaphragm being designed to be weaker in the area adjacent to these webs (versus the portion of the diaphragm distant from these webs; Col 4, Lines 9-11), and wherein said narrow elongate openings are arc-shaped comprising a longitudinal dimension extending along said circle (as seen in Fig 2) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include narrow elongate openings and webs, as taught by Litt, for the purpose of

increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

15. Re claim 42, Nuesch discloses a breast shield set (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 1 (Fig 1), a breast shield connector (Fig 1; Col 3, Lines 21-23) with a threaded attachment 9 (Fig 1) for connection to a milk collection vessel 8 (Fig 1), and a valve (Fig 2) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 6 (Fig 2) and a valve body (formed of components 27,28,29,30 and 33, as seen in Fig 3) with a circular diaphragm (distal face upon which flap 27, hinge 28 and margin 30 are formed, Fig 2), the valve body being arranged over the valve seat (as seen in Fig 1) and closing the valve seat sealingly when it bears on said valve seat (Col 5, Lines 2-6), and the valve seat and valve body having openings (openings 26 in the valve seat, as seen in Fig 2; the opening in which diaphragm 27 resides, Col 5, Lines 1-2) which are offset relative to one another (as seen in Fig 2) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 51-56 and Col 5, Lines 1-2), wherein the opening of the diaphragm of the valve body comprise a narrow elongate opening (as seen in Fig 2), and wherein the diaphragm comprises thinned parts 27 (compared to margin 30 upon which jacket 29 is formed and extends, as seen in Fig 2) in the area adjacent web 28 (Fig 2), these thinned parts making the diaphragm weaker in the area (compared to the area of margin 30 and jacket 29, Fig 2). Nuesch does not disclose that there are numerous openings of the diaphragm that are narrow elongate openings

separated from one another by webs. Litt, however, teaches a valve comprising a valve seat 56 (Fig 5) and a diaphragm valve body 30 (Fig 2,5) comprising narrow elongate openings 62 (Fig 2) which are uniformly distributed and follow a circle adjacent the periphery of the diaphragm (as seen in Fig 2), and wherein the narrow elongate openings are separated from one another by webs 64 (Fig 2), the diaphragm being designed to be weaker in the area adjacent to these webs (versus the portion of the diaphragm distant from these webs; Col 4, Lines 9-11) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include narrow elongate openings and webs, as taught by Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

16. Re claim 43, Nuesch discloses a breast shield set (Fig 1) for pumping off human breast milk, the breast shield set comprising a breast shield 1 (Fig 1), a breast shield connector (Fig 1; Col 3, Lines 21-23) with a threaded attachment 9 (Fig 1) for connection to a milk collection vessel 8 (Fig 1), and a valve (Fig 2) for limiting a dead volume during pumping off of breast milk, wherein the valve has a valve seat 6 (Fig 2) and a valve body (formed of components 27,28,29,30 and 33, as seen in Fig 2) with a circular diaphragm (distal face upon which flap 27, hinge 28 and margin 30 are formed,

Fig 2), the valve body being arranged over the valve seat (as seen in Fig 1) and closing the valve seat sealingly when it bears on said valve seat (Col 5, Lines 2-6), and the valve seat and valve body having openings (openings 26 in the valve seat, as seen in Fig 2; the opening in which diaphragm 27 resides, Col 5, Lines 1-2) which are offset relative to one another (as seen in Fig 2) and which form a free passage when the diaphragm of the valve body lifts (Col 4, Lines 51-56 and Col 5, Lines 1-2), wherein the opening of the diaphragm of the valve body comprise a narrow elongate opening (as seen in Fig 2), and wherein the valve body comprises the diaphragm and a cylindrical jacket 29 (Fig 2) that surrounds the diaphragm, wherein the valve body is an unitary part and has the same basic shape as the valve seat (as seen in Fig 2), and wherein the jacket can be fitted over the valve seat (as seen in Fig 1; Col 5, Lines 7-21). Nuesch does not disclose that there are numerous openings of the diaphragm that are narrow elongate openings separated from one another by webs. Litt, however, teaches a valve comprising a valve seat 56 (Fig 5) and a diaphragm valve body 30 (Fig 2,5) comprising narrow elongate openings 62 (Fig 2) which are uniformly distributed along a circle in the periphery of the diaphragm (as seen in Fig 2), and wherein the narrow elongate openings are separated from one another by webs 64 (Fig 2), the diaphragm being designed to be weaker in the area adjacent to these webs (versus the portion of the diaphragm distant from these webs; Col 4, Lines 9-11) for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45). Therefore, it would have been obvious

to one of ordinary skill in the art at the time the invention was made to modify Nuesch to include narrow elongate openings and webs, as taught by Litt, for the purpose of increasing web flexibility in order to allow the diaphragm to move away from the seat to allow the passage of fluid therethrough and bias the diaphragm against the seat in the absence of fluid (Col 3, Lines 56-58 and Col 4, Lines 9-45).

17. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuesch (US Pat 6,270,474)/Litt (US Pat 4,181,477) in view of Edwards et al. (US Pat 5,025,829) and Ytteborg (PG PUB 2003/0153869).

18. Re claims 20 and 21, Nuesch/Litt disclose all the claimed features except that the breast shield, connector, and valve seat are made of the autoclavable material polypropylene and that the valve body is made of the non-autoclavable material thermoplastic elastomer. Ytteborg, however, teaches a breast shield set made entirely of the autoclavable material polypropylene (Para 58) for the purpose of allowing strong cleaning (Para 58). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include a breast shield, connector, and valve seat made of polypropylene, as taught by Ytteborg, for the purpose of allowing strong cleaning (Para 58). Furthermore, Edwards et al. teaches a valve body 10 (Fig 1) for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include a valve body made of thermoplastic elastomer, as taught by

Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include the use of polypropylene in the breast shield, connector and valve seat and thermoplastic elastomer in the valve body since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

19. Claims 27 and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuesch (US Pat 6,270,474)/Litt (US Pat 4,181,477) in view of Edwards et al. (US Pat 5,025,829).

20. Re claim 27, Litt disclose that multiple elongate openings and multiple webs are present (as seen in Fig 2), but Nuesch/Litt do not disclose that exactly three elongate openings and three webs are present. Edwards et al., however, teaches a valve body 10 (Fig 1) having three narrow elongate openings 16 (Fig 1) and three webs 20 (Fig 1) (Col 3, Lines 49-54) for the purpose of providing area for flow (Col 3, Lines 57-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include exactly three elongate openings and three webs, as taught by Edwards et al., for the purpose of providing area for flow (Col 3, Lines 57-59). Further, it would have been an obvious matter of design choice to modify Nuesch/Litt to include exactly three elongate openings and three webs since applicant has not disclosed that having such an amount solves any stated problem or is for any particular purpose and it appears that the device would perform equally well with

either designs. Furthermore, absent a teaching as to the criticality of this number, this particular arrangement is deemed to have been known by those skilled in the art since the instant specification and evidence of record fail to attribute any significance (novel or unexpected results) to a particular arrangement. In *re Kuhle*, 526 F.2d 553,555,188 USPQ 7, 9 (CCPA 1975). Specifically, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include exactly three elongate openings and three webs since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. In *re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960).

21. Re claims 38, 39, and 40, Nuesch/Litt disclose all the claimed features except that the valve body is made of the non-autoclavable material thermoplastic elastomer. Edwards et al., however, teaches a valve body 10 (Fig 1) for use in pumping apparatuses that is made from thermoplastic elastomer (Col 2, Lines 51-52), a known non-autoclavable material, for the purpose of providing adequate flexibility (Col 2, Lines 58-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include a valve body made of thermoplastic elastomer, as taught by Edwards et al., for the purpose of providing adequate flexibility (Col 2, Lines 58-59).

22. Claims 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuesch (US Pat 6,270,474)/Litt (US Pat 4,181,477) in view of Paradis (US Pat 5,453,097).

23. Re claims 29 and 31, Nuesch/Litt disclose all the claimed features except that the compact openings have a T-shaped configuration. Paradis, however, teaches a disk 72 (Fig 7A; Col 6, Lines 20-24) having openings 72-1, 72-2 (Fig 7B; Col 6, Lines 20-24) having a T-shaped configuration (as seen in Fig 7B) each having a foot (extending radially-inward, as seen in Fig 7B) and a bar extending transversely over the foot (as seen in Fig 7B), and in which the foot is oriented toward webs (the spaces formed between the openings, as seen in Fig 7B) and radially toward a center point of the circle of the diaphragm (as seen in Fig 7B) for the purpose of limiting the deformation thereof in the direction of pressure (Col 6, Lines 12-14). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nuesch/Litt to include the compact openings in a T-shaped configuration, as taught by Paradis, for the purpose of limiting the deformation thereof in the direction of pressure (Col 6, Lines 12-14).

### ***Response to Arguments***

24. Applicant's arguments with respect to claims 18-21, 25-27 and 29-43 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

25. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMI A. BOSWORTH whose telephone number is (571)270-5414. The examiner can normally be reached on Monday - Thursday, 7:00 am to 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Simons can be reached on (571)272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. A. B./  
Examiner, Art Unit 3767  
/KEVIN C. SIRMONS/  
Supervisory Patent Examiner, Art Unit 3767